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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,574

03/14/2005

Sebastien Perrot

PF020112

7078

24498

7590

04/30/2008

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2619

MAIL DATE

DELIVERY MODE

04/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/527,574	Applicant(s) PERROT ET AL.	
	Examiner JEFFREY M. RUTKOWSKI	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 1-3, 6 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa et al. ("Frame Transfer Protocol with Shortcut between Wireless Bridges"), hereinafter referred to as Ichikawa, in view of Backes ("Transparent Bridges for Interconnection of IEEE 802 LANs") and Suzuki et al. (US Pat. 6,447,589), hereinafter referred to as Suzuki.

4. For **claims 1 and 9**, Ichikawa teaches a wireless bridging network that makes use of Transparent Bridging Protocol (TBP) in a wireless network [page 1705, Section I and page 1706, figure 2]. TBP makes use of Spanning Tree Protocol (STP) to establish a network tree [page 1705, Section II, 2nd paragraph]. Ichikawa's wireless bridges have an interface connected to a wired network (first interface) as well as an interface (second interface) connected

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a wireless network **[page 1706 figure 2]**. Each node in Ichikawa's invention maintains its own filtering database Ichikawa suggests the use of a microprocessor means **[figure 2]**.

5. Ichikawa discloses that STP to decide port state **[page 1706, Section III 1st paragraph]**.

Ichikawa is silent as to what is involved in the process of deciding port states. Backes clarifies the teachings of Ichikawa by disclosing root (parent) bridges are chosen (elected) based on the lowest bridge identifier value **[page 8, 1st column Example section]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to elect a root (parent) bridge in Ichikawa's invention to provide a tree structure that is resilient to network changes.

6. The combination of Ichikawa and Backes teaches a root contention process in a wireless bridge network **[Ichikawa, figure 2]** where a second information fields are compared to select a root **[Backes, page 8, Root Selection section]**. The second information field is derived from the port information, typically a MAC address, of one of the data links **[Backes, page 7 bullet 1]**.

The combination of Ichikawa and Backes does not teach a root (parent) election process that takes into account the number of ports on a bridge. Suzuki teaches a known technique for root contention (parent election), in a tree network **[figure 2]**, where a node is elected a root based upon a number (a function) of ports **S1608 [figure 15]**. A person of ordinary skill in the art at the time of the invention would appreciate the improvement gained by using Suzuki's root contention process in Ichikawa's invention because Suzuki's invention saves clock cycles by eliminating the need to derive port information. The counting of interfaces would yield predictable results because in either contention process a root bridge needs to take interface information into account to elect a root (parent).

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7. The combination of Ichikawa, Backes and Suzuki disclose a root (parent) election process where a wireless portal [**Ichikawa, figure 2**] counts a number of ports that other devices are connected (may be connected) to in a tree structure [**Suzuki, col. 12 lines 20-25, figure 15**].

8. For **claim 2**, in Ichikawa's invention the number of physical and virtual ports is limited to the number of ports needed to interconnect LANs via wireless mesh [**figure 2**]. The respective number of ports are configurable according to the number of LANs needed to interconnect and the number of wireless interfaces that make-up the mesh. For example, it is well-known in the art that a wireless bridge can have more than one physical port so that more than one LAN can use the same wireless bridge.

9. For **claim 3**, the combination of Ichikawa, Backes and Suzuki disclose a root bridge (elected portal) is the only portal that is root on a local bus [**Backes, page 8 figure 5**].

10. For **claim 6**, the combination of Ichikawa, Backes and Suzuki disclose STP eliminates loops in a network (invalid topology) by placing ports into a blocking state [**Backes, pgs 7-8 Spanning Tree Algorithm section**].

11. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Backes and Suzuki as applied to **claim 1** above, and further in view of IEEE Standard 802.1w.

12. For **claim 4**, which depends from **claim 1**, the combination of Ichikawa, Backes and Suzuki do not teach a new root (parent) bridge is elected when a new bridge portal is ATTACHED to the spanning tree network. The IEEE Standard 802.1w teaches a new bridge to a spanning tree can result in the changing of port roles in all or part of a network [**page 35, final paragraph**]. It would have been obvious to a person of ordinary skill in the art at the time of the

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invention to elect a new root (parent) bridge in Meier's invention since the new bridge may have better connectivity (i.e. access to more bandwidth) than the previous root bridge.

13. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Backes, Suzuki and IEEE Standard 802.1w as applied to **claim 4** above, and further in view of Moriya (US Pg Pub 2002/0027887).

14. For **claim 5**, which depends from **claim 4**, the combination of Ichikawa, Backes, Suzuki and IEEE Standard 802.1w disclose the election of a root (parent) portal. The combination of Ichikawa, Backes, Suzuki and IEEE Standard 802.1w does not teach verifying a free virtual port. Moriya teaches a health check function that checks to see if other nodes are connected to an unused port [0077]. It would have been obvious to a person of ordinary skill in the art at the time of the invention verify an open port in Meier's invention to make sure the bridge has enough resources to handle the new portal.

15. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Backes and Suzuki as applied to **claim 1** above, and further in view of Meier (WO 95/12942).

16. The combination of Ichikawa, Backes and Suzuki disclose sending alert messages when a change in topology occurs [**Backes, page 8 Topology Changes section**]. The combination of Ichikawa, Backes and Suzuki does not disclose storing the source of an alert. Meier teaches if a parent cannot contact a child node, the parent node marks a table entry for the child node as UNATTACHED, adds an alert for the child to node to an alert list (failure cause of a portal to a parent portal) and sends an alert request to the root [**page 45, 2nd paragraph**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to store the

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source of an alert in a node in Suzuki's invention to provide information that can be examined to find the cause of a network failure.

17. **Claims 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Backes and Suzuki, as applied to **claim 1** above, and further in view of Brown et al. (US Pat 5,606,664), hereinafter referred to as Brown.

18. For **claim 8**, the combination of Ichikawa, Backes and Suzuki disclose the election of a parent based on the number of ports. Brown teaches a root bridge that is elected as root according to the number of down port links [col. 19 lines 41-45]. Given that ports on a node can only be in a finite number of states [Ichikawa, page 1706 figure 3], it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the number of ports to determine a root in Ichikawa's invention since the root with the largest number of ports would create the most compact spanning tree.

Response to Arguments

19. Applicant's arguments with respect to **claims 1-9** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Jeffrey M Rutkowski

Patent Examiner

04/21/2008

/Hassan Kizou/

Supervisory Patent Examiner, Art Unit 2619